

Section 4. Airport Lighting

3-4-1. EMERGENCY LIGHTING

Whenever you become aware that an emergency has or will occur, take action to provide for the operation of all appropriate airport lighting aids as required.

REFERENCE-

FAAO 7110.65, *Lighting Requirements*, Para 10-4-2.

3-4-2. RUNWAY END IDENTIFIER LIGHTS

When separate on-off controls are provided, operate runway end identifier lights:

a. When the associated runway lights are lighted. Turn the REIL off after:

1. An arriving aircraft has landed.
2. A departing aircraft has left the traffic pattern area.

3. It is determined that the lights are of no further use to the pilot.

b. As required by facility directives to meet local conditions.

c. As requested by the pilot.

d. Operate intensity setting in accordance with the values in TBL 3-4-1 except as prescribed in subparas b and c above.

REIL Intensity Setting-Three Step System

Settings	Visibility	
	Day	Night
3	Less than 2 miles	Less than 1 mile
2	2 to 5 miles inclusive	1 to but not including 3 miles
1	When requested	3 miles or more

TBL 3-4-1

3-4-3. VISUAL APPROACH SLOPE INDICATORS (VASI)

VASI systems with remote on-off switching shall be operated when they serve the runway in use and where intensities are controlled in accordance with TBL 3-4-1 and TBL 3-4-2 except:

- a. As required by facility directives to meet local conditions.
- b. As required by the pilot.

VASI Intensity Setting-Two Step System

Step	Period/Condition
High	Day-Sunrise to sunset.
Low	Night-Sunset to sunrise.

TBL 3-4-2

VASI Intensity Setting-Three Step System

Step	Period/Condition
High	Day-Sunrise to sunset.
Medium	Twilight-From sunset to 30 minutes after sunset and from 30 minutes before sunrise to sunrise,* and during twilight in Alaska.
Low	Night-Sunset to sunrise.

*During a 1 year period, twilight may vary 26 to 43 minutes between 25 and 49N latitude.

TBL 3-4-3

NOTE-

The basic FAA standard for VASI systems permits independent operation by means of photoelectric device. This system has no on-off control feature and is intended for continuous operation. Other VASI systems in use include those that are operated remotely from the control tower. These systems may consist of either a photoelectric intensity control with only an on-off switch, a two step intensity system, or a three step intensity system.

REFERENCE-

FAAO 7210.3, *Visual Approach Slope Indicator (VASI) Systems*, Para 10-6-5.

FAAO 6850.2, *Visual Guidance Lighting Systems*.

3-4-4. APPROACH LIGHTS

Operate approach lights:

a. Between sunset and sunrise when one of the following conditions exists:

1. They serve the landing runway.
2. They serve a runway to which an approach is being made but aircraft will land on another runway.

b. Between sunrise and sunset when the ceiling is less than 1,000 feet or the prevailing visibility is 5 miles or less and approaches are being made to:

1. A landing runway served by the lights.
 2. A runway served by the lights but aircraft are landing on another runway.
 3. The airport, but landing will be made on a runway served by the lights.
- c. As requested by the pilot.

d. As you deem necessary, if not contrary to pilot's request.

NOTE-

In the interest of energy conservation, the ALS should be turned off when not needed for aircraft operations.

REFERENCE-

FAAO 7110.65, *ALS Intensity Settings, Para 3-4-5.*

3-4-5. ALS INTENSITY SETTINGS

When operating ALS as prescribed in para 3-4-4, Approach Lights, operate intensity controls in accordance with the values in TBL 3-4-4 except:

a. When facility directives specify other settings to meet local atmospheric, topographic, and twilight conditions.

b. As requested by the pilot.

c. As you deem necessary, if not contrary to pilot's request.

ALS Intensity Setting

Step	Visibility- (Applicable to runway served by lights)	
	Day	Night
5	Less than 1 mile*	When requested
4	1 to but not including 3 miles	When requested
3	3 to but not including 5 miles	Less than 1 mile*
2	5 to but not including 7 miles	1 to 3 miles inclusive
1	When requested	Greater than 3 miles
*and/or 6,000 feet or less of the RVR on the runway served by the ALS and RVR.		

TBL 3-4-4

NOTE-

Daylight steps 2 and 3 provide recommended settings applicable to conditions in subparas b and c. At night, use step 4 or 5 only when requested by a pilot.

3-4-6. SEQUENCED FLASHING LIGHTS (SFL)

Operate Sequenced Flashing Lights:

NOTE-

SFL are a component of the ALS and cannot be operated when the ALS is off.

a. When the visibility is less than 3 miles and instrument approaches are being made to the runway served by the associated ALS.

b. As requested by the pilot.

c. As you deem necessary, if not contrary to pilot's request.

3-4-7. MALSR/ODALS

Operate MALSR/ODALS that have separate on-off and intensity setting controls in accordance with TBL 3-4-5 and TBL 3-4-6 except:

a. When facility directives specify other settings to meet local atmospheric, topographic, and twilight conditions.

b. As requested by the pilot.

c. As you deem necessary, if not contrary to pilot's request.

Two Step MALSR/One Step RAIL/Two Step ODALS

Settings		Visibility	
		Day	Night
MALSR/ODALS RAIL	Hi On	Less than 3 miles	Less than 3 miles
MALSR/ODALS RAIL	Low Off	When requested	3 miles or more
*At locations providing part-time control tower service, if duplicate controls are not provided in the associated FSS, the MALSR/ODALS shall be set to low intensity during the hours of darkness when the tower is not staffed.			

TBL 3-4-5

Three Step MALSR/Three Step RAIL/Three Step ODALS

Settings	Visibility	
	Day	Night
3	Less than 2 miles	Less than 1 mile
2	2 to 5 miles inclusive	1 to but not including 3 miles*
1	When requested	3 miles or more
*At locations providing part-time control tower service, if duplicate controls are not provided in the FSS on the airport, the air-to-ground radio link shall be activated during the hours of darkness when the tower is unmanned. If there is no radio air-to-ground control, the MALSR/ODALS shall be set on intensity setting 2 during the hours of darkness when the tower is not staffed.		

TBL 3-4-6

REFERENCE-

FAAO 7210.3, *Operation of Lights When Tower is Closed, Para 10-6-2.*

3-4-8. ALSF-2/SSALR

a. When the prevailing visibility is 3/4 mile or less or the RVR is 4,000 feet or less, operate the ALSF-2 system as follows:

1. As requested by the pilot.

2. As you deem necessary if not contrary to pilot request.

b. Operate the SSALR system when the conditions in subpara a are not a factor.

3-4-9. RUNWAY EDGE LIGHTS

Operate the runway edge light system/s serving the runway/s in use as follows:

a. Between sunset and sunrise, turn the lights on:

1. For departures. Before an aircraft taxis onto the runway and until it leaves the Class B, Class C, or Class D surface area.

2. For arrivals:

(a) IFR aircraft—Before the aircraft begins final approach, or

(b) VFR aircraft—Before the aircraft enters the Class B, Class C, or Class D surface area, and

(c) Until the aircraft has taxied off the landing runway.

b. Between sunrise and sunset, turn the lights on as shown in subparas a1 and a2 when the surface visibility is less than 2 miles.

c. As required by facility directives to meet local conditions.

d. Different from subparas a, b, or c above, when:

1. You consider it necessary, or

2. Requested by a pilot and no other known aircraft will be adversely affected.

NOTE-

Pilots may request lights to be turned on or off contrary to subparas a, b, or c. However, 14 CFR Part 135 operators are required to land/takeoff on lighted runways/heliport landing areas at night.

e. Do not turn on the runway edge lights when a NOTAM closing the runway is in effect.

NOTE-

Application concerns use for takeoffs/landings/approaches and does not preclude turning lights on for use of unaffected portions of a runway for taxiing aircraft, surface vehicles, maintenance, repair, etc..

REFERENCE-

FAAO 7110.65, Simultaneous Approach and Runway Edge Light Operation, Para 3-4-14.

FAAO 7210.3, Incompatible Light System Operation, Para 10-6-3.

FAAO 7210.3, Runway Edge Lights Associated With Medium Approach Light System/Runway Alignment Indicator Lights, Para 10-6-8.

3-4-10. HIGH INTENSITY RUNWAY, RUNWAY CENTERLINE, AND TOUCHDOWN ZONE LIGHTS

Operate high intensity runway and associated runway centerline and touchdown zone lights in accordance with TBL 3-4-7, except:

a. Where a facility directive specifies other settings to meet local conditions.

b. As requested by the pilot.

c. As you deem necessary, if not contrary to pilot request.

HIRL, RCLS, TDZL Intensity Setting

Step	Visibility	
	Day	Night
5	Less than 1 mile*	When requested
4	1 to but not including 2 miles*	Less than 1 mile*
3	2 to but not including 3 miles	1 to but not including 3 miles*
2	When requested	3 to 5 miles inclusive
1	When requested	More than 5 miles

*and/or appropriate RVR/RVV equivalent.

TBL 3-4-7

3-4-11. HIRL ASSOCIATED WITH MALSR

Operate HIRL which control the associated MALSR in accordance with TBL 3-4-8, except:

a. As requested by the pilot.

b. As you deem necessary, if not contrary to the pilot's request.

HIRL Associated with MALSR

Step	Visibility	
	Day	Night
5	Less than 1 mile	When requested
4	1 to but not including 2 miles	Less than 1 mile
3	2 to but not including 3 miles	1 to but not including 3 miles
2	When requested	3 to 5 miles inclusive
1	When requested	More than 5 miles

TBL 3-4-8

NOTE-

When going from a given brightness step setting to a lower setting, rotation of the brightness control to a point below the intended step setting and then back to the appropriate step setting will ensure that the MALSR will operate at the appropriate brightness.

REFERENCE-

FAAO 7110.65, Medium Intensity Runway Lights, Para 3-4-13.

3-4-12. HIRL CHANGES AFFECTING RVR

Keep the appropriate approach controller or PAR controller informed, in advance if possible, of HIRL changes that affect RVR.

3-4-13. MEDIUM INTENSITY RUNWAY LIGHTS

Operate MIRL or MIRL which control the associated MALSR in accordance with TBL 3-4-9, except:

- a. As requested by the pilot.
- b. As you deem necessary, if not contrary to the pilot's request.

MIRL Intensity Setting

Step	Visibility	
	Day	Night
3	Less than 2 miles	Less than 1 mile
2	2 to 3 miles	1 to 3 miles
1	When requested	More than 3 miles

TBL 3-4-9

REFERENCE-

FAAO 7110.65, HIRL Associated With MALSR, Para 3-4-11.

3-4-14. SIMULTANEOUS APPROACH AND RUNWAY EDGE LIGHT OPERATION

Turn on the runway edge lights for the runway in use whenever the associated approach lights are on. If multiple runway light selection is not possible, you may leave the approach lights on and switch the runway lights to another runway to accommodate another aircraft.

REFERENCE-

FAAO 7110.65, Runway Edge Lights, Para 3-4-9.

3-4-15. HIGH SPEED TURNOFF LIGHTS

Operate high speed turnoff lights:

- a. Whenever the associated runway lights are used for arriving aircraft. Leave them on until the aircraft has either entered a taxiway or passed the last light.
- b. As required by facility directives to meet local conditions.
- c. As requested by the pilot.

3-4-16. TAXIWAY LIGHTS

Operate taxiway lights in accordance with TBL 3-4-9, TBL 3-4-10, or TBL 3-4-11 except:

- a. Where a facility directive specifies other settings or times to meet local conditions.
- b. As requested by the pilot.
- c. As you deem necessary, if not contrary to pilot request.

Three Step Taxiway Lights

Step	Visibility	
	Day	Night
3	Less than 1 mile	When requested
2	When requested	Less than 1 mile
1	When requested	1 mile or more

TBL 3-4-10

Five Step Taxiway Lights

Step	Visibility	
	Day	Night
5	Less than 1 mile	When requested
4	When requested	Less than 1 mile
3	When requested	1 mile or more
1 & 2	When requested	When requested

TBL 3-4-11

One Step Taxiway Lights

Day	Night
Less than 1 mile	On

TBL 3-4-12

NOTE-

AC/150 5340-24 contains recommended brightness levels for variable setting taxiway lights.

3-4-17. OBSTRUCTION LIGHTS

If controls are provided, turn the lights on between sunset and sunrise.

3-4-18. ROTATING BEACON

If controls are provided, turn the rotating beacon on:

- a. Between sunset and sunrise.
- b. Between sunrise and sunset when the reported ceiling or visibility is below basic VFR minima.